

Method and device for supplying air to a fuel cell system.

Patent number: EP0629013
Publication date: 1994-12-14
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Classification:
 - international: H01M8/04
 - european: H01M8/04C2
Application number: EP19940107591 19940517
Priority number(s): DE19934318818 19930607

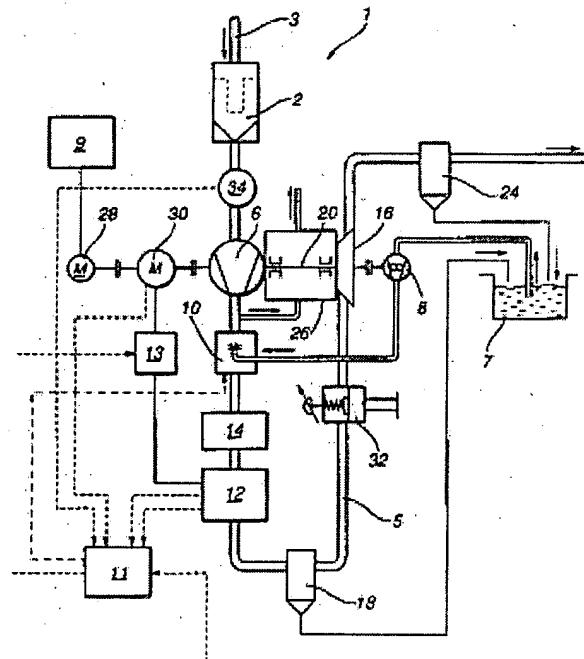
Also published as:
 EP0629014 (A2)
 US5434016 (A1)
 US5432020 (A1)
 JP7014599 (A)
 JP7014597 (A)

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Cited documents:
 FR1436747
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Abstract of EP0629013

The invention relates to a method and a device for regulating the power (performance) of an air-breathing fuel cell system which consists of an air supply line, a fuel cell, an air outlet line and a separate gas supply system for the hydrogen gas. In order to regulate the fuel cell power, it is proposed to arrange a compressor having an adjustable rotation speed in the air supply line and an expander having a variable suction capacity in the air outlet line, the compressor, the expander and an additional electric motor being arranged on a common shaft. The expander converts the pressure energy contained in the exhaust air into mechanical energy and emits this energy via the common shaft to the compressor. The air mass flow is regulated at a predetermined nominal value via the rotation speed of the compressor, a predetermined operating pressure being set in the fuel cell system at the same time, by matching the suction capacity of the expander.



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